
Benefits of Collecting Local Data on Breast Cancer and Mammography Practices in Northwestern Pennsylvania

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Synopsis

The use of local data on cancer incidence and mortality and on risk-related behaviors to help communities set priorities and guide program planning is an important facet of the National Cancer

Institute's Program, "Data-Based Intervention Research for Public Health Agencies." As a participant in this program, the Pennsylvania Department of Health has developed a "breast cancer profile" for a seven-county, predominantly rural region of northwestern Pennsylvania.

Community hospitals in the area are collaborating with the health department to develop interventions to enhance screening mammography. The availability of the profiles allowed hospitals to compare local breast cancer risk and screening activities with those of the State and nation, to target interventions, and to establish a baseline to measure changes over time. The data generated great interest among health professionals in northwestern Pennsylvania because, contrary to their expectations, the region was quite similar to the State and nation. While the proportion of women ages 40 and older who had ever had a mammogram was relatively high (66 percent), the proportion with more than one mammogram was considerably lower (43 percent), suggesting that hospitals focus on promoting regular mammography.

Although it is feasible to develop data-based interventions for local areas, the effort is not trivial. State and national agencies must cooperate to ensure comparability of data collection and reports so that comparisons of local, State, and national data can be produced routinely.

LEVELS OF MAMMOGRAPHY, as well as breast cancer incidence and mortality, in northwestern Pennsylvania show remarkable similarities to State and national data. The Cancer Control Program of the Pennsylvania Department of Health has developed a "breast cancer profile" for the seven-county region encompassing Clarion, Crawford, Erie, Lawrence, Mercer, Venango, and Warren Counties using area-specific mortality rates, cancer incidence data from the Pennsylvania Cancer Registry, a population-based telephone survey of residents of the area, and surveys of the community hospitals.

Pennsylvania is one of several States funded by the National Cancer Institute's (NCI) Program, "Data-Based Intervention Research for Public Health Agencies." The program highlights feedback of local data on cancer incidence and mortality and risk-related behaviors to communities to help them set priorities and guide program planning (1). The enthusiastic response of health professionals in northwestern Pennsylvania to data specifically for their area underscores the wisdom of this approach. In retrospect, since the local data paralleled State and national data so closely, program planning could have been based on existing

Table 1. Incidence of breast cancer per 100,000 women¹ in the seven-county area of northwestern Pennsylvania, the State, and the nation

Year	Northwestern Pennsylvania ²	State of Pennsylvania ^{3,4}	National SEER Registry ^{3,5}
1985	92.1	99.6	106.1
1986	94.9	108.3	108.5
1987	108.0	112.2	116.5
1988	122.2	118.5	112.9

¹ Age adjusted to 1970 U.S. standard population.

² SOURCE: reference 5.

³ White women only.

⁴ SOURCE: references 3 and 4.

⁵ SOURCE: reference 2.

NOTE: SEER = surveillance, epidemiology, and end results.

Table 2. Breast cancer mortality per 100,000 women¹ in the seven-county area of northwestern Pennsylvania, the State, and the nation

Year	Northwestern Pennsylvania ²	State of Pennsylvania ^{3,4}	National SEER Registry ^{3,5}
1985	25.9	28.4	27.5
1986	28.6	28.3	27.3
1987	29.5	29.2	27.0
1988	29.2	29.7	27.5

¹ Age adjusted to 1970 U.S. standard population.

² SOURCE: reference 5.

³ White women only.

⁴ SOURCE: reference 4.

⁵ SOURCE: reference 2.

NOTE: SEER = surveillance, epidemiology, and end results.

data sources. But, there was no way to predict that this would be the case and, in fact, some of the results, particularly related to mammography, were quite surprising and of great interest to health professionals in the northwest area.

The breast cancer profile was developed as part of a cooperative effort between the Pennsylvania Department of Health and community hospitals in the northwest region to use the strengths of these hospitals as important resources for building cancer control activities. With the exception of Erie County, the seven-county area is predominantly rural. Community hospitals are the primary resource for access to traditional care for rural residents and, recently, their staffs have had an increasing interest in outreach activities to the community and its physicians.

In these rural areas, hospitals are the only sources of mammography. Through a series of minigrants to community hospitals in the northwest area, interventions to increase screening mammography are being developed which involve close interaction between the Pennsylvania Department

of Health and the hospitals. The breast cancer profile for northwestern Pennsylvania was a first step in this process. It provides information on incidence and mortality, breast cancer screening practices, and hospital programs and capacities for breast cancer detection. It is being used to inform professionals and the public about how breast cancer risk and screening activities in their area compare with the State and the nation, to target interventions, and to serve as a baseline against which to measure changes over time.

Our objectives in this report are, first, to describe the sources of the data for the profiles, the results, and comparisons with State and national data; second, to discuss the feasibility of similar efforts for other areas of the State and nation; and, third, to suggest collaborative initiatives that will facilitate the production of these profiles in the future.

Incidence and Mortality

Sources of data. The data on cancer incidence and the stage at diagnosis for residents of the seven counties and for the State were supplied by the Pennsylvania Cancer Registry. By law, all hospitals are required to report to the registry all cases of cancer diagnosed or treated in the hospital. The Pennsylvania Cancer Registry began operation in the northwest area in 1984. Thus, the ability to provide feedback to local areas on cancer incidence is a newly developed capacity of the Pennsylvania Department of Health. Mortality data for the seven-county area and for the State as a whole were obtained from the Health Data Center of the Pennsylvania Department of Health. Comparison data for the nation come from the NCI's Surveillance, Epidemiology and End Results (SEER) Program, which publishes incidence and mortality data based on registries in nine geographic areas of the United States (2). In comparisons of the northwest area with the State and nation, incidence and mortality rates for white women are used, since 96 percent of the population of this region is white.

Results. Breast cancer was overwhelmingly the leading type of cancer among women in the northwest area. There were 2,035 cases of breast cancer diagnosed in the seven counties in 1985 through 1988 (3,4). Incidence rates for breast cancer for each of these 4 years for the northwest area, State, and the nation are presented in table 1 and show the rise in breast cancer incidence over this period. Thirty percent of all cancers diagnosed in women

in northwestern Pennsylvania in 1985–88 were breast cancer (3,4). Statewide (1985–88) and nationally (1984–88), 30 and 31 percent of all cancers among women were breast cancer (2–4).

Breast cancer was also the leading cause of cancer deaths in women in the seven-county area during the years 1985–88. During those 4 years, 578 women died of breast cancer (5). Table 2 shows mortality rates for 1985 through 1988 for the northwest area, the State, and the nation; the rates for each year are generally in the range of 27 to 29 deaths from breast cancer per 100,000 women (2,4,5). Thus, while cancer incidence has been increasing, the death rate has remained relatively stable. In the SEER Registry, mortality attributed to lung cancer in women overtook that from breast cancer during this 4-year period (2). In Pennsylvania, however, breast cancer remained the leading cause of cancer deaths for women. Breast cancer accounts for approximately 20 percent of all cancer deaths in women in the northwest area and 19 percent of cancer deaths in Pennsylvania (1986–88) and the nation (1984–88) (2,4).

A substantial proportion of breast cancer cases are still detected at late stages, an important finding since survival from breast cancer is related to the stage at which it is detected. According to 1981–87 SEER data, 5-year survival for white women with breast cancer diagnosed in the localized invasive stage is 92 percent. Survival decreases to 72 percent and 19 percent for diagnosis in the regional and distant invasive stages, respectively (2).

In the SEER data base (1981–87), 46 percent of invasive breast cancer was diagnosed in the regional or distant stages. The northwest area and the State have shown progressive declines in the proportion of women diagnosed in these later stages between 1985 and 1988 (3,4,6,7). In 1985, regional and distant diagnoses comprised 43 percent of all invasive cases in the northwest region and 45 percent of all invasive cases in the State. In 1988, this proportion had dropped to 37 percent of all invasive cases in the northwest and 40 percent of all invasive cases in the State (table 3).

Breast Cancer Screening Practices

Sources of data. In July and August 1990, a telephone survey of a sample of adults obtained by random digit dialing was conducted in the seven-county area where, according to the 1980 census, 95 percent of households have telephones (8). The overall response rate to the survey was 70.9 per-

Table 3. Percentage distribution of invasive breast cancer of women in northwestern Pennsylvania and the State, by stage at diagnosis¹

Year	Northwestern Pennsylvania ²			State of Pennsylvania ³		
	Localized	Regional	Distant	Localized	Regional	Distant
1985 ...	57	35	8	55	35	10
1986 ...	59	31	10	58	33	9
1987 ...	59	34	7	60	32	9
1988 ...	63	33	4	60	32	8

¹ Cases diagnosed with in situ or unknown stages are excluded.

² SOURCE: reference 5.

³ SOURCE: white women only. References 3,4,6,7.

cent. The survey provided information on mammography and clinical breast examinations, as well as data on Pap (Papanicolaou) testing, general medical checkups, use of medical care facilities, and smoking. The results described subsequently relate to the 448 women ages 40 and older to whom the questions on mammography were directed.

Estimates of use of mammography among women ages 40 and older in the State come from the Center for Disease Control's (CDC) 1990 Behavioral Risk Factor Survey (BRFS) for Pennsylvania (9). Two national telephone surveys conducted in 1989–90, the Mammography Attitudes and Usage Study and the National Knowledge, Attitudes and Behavior Survey, provided data on use of mammography nationally by women ages 40 and older (10). Since mammography practices have changed so dramatically during the previous few years (10–13), it is most important that studies chosen for comparison with the northwestern Pennsylvania population be conducted at approximately the same time. Thus although numerous other studies on mammography practices have been carried out in a variety of settings, their results may not be directly relevant since they were conducted in earlier years.

Results. Women in northwestern Pennsylvania are as likely to have ever had a mammogram as are women in the State and nation. In the northwest, 66 percent of women ages 40 and older reported having had at least one mammogram. These data are very similar to State and national reports (table 4), and this similarity extends to subgroup analyses by age, education, and income (table 5). Mammography is more common among women 50–59 than among younger or older age groups. It is also more prevalent among women with higher income and education.

While a high proportion of women had ever had

Table 4. Percentage of women ages 40 and older in northwestern Pennsylvania, the State of Pennsylvania, and the nation who reported mammography behaviors

Category	Northwestern Pennsylvania (N = 435) ¹	Pennsylvania CDC Behavior Risk Factor Survey (N = 739) ²	Mammography Attitudes and Usage Survey (N = 980) ³	Knowledge, Attitudes, and Behavior Survey (N = 836) ³
Ever had a mammogram.....	66	67	64	67
Had more than 1 mammogram.....	43	...	35	...
Had last mammogram as routine checkup	74	85
Had last mammogram because their physician recommended it.....	81	75	75	...

¹ 13 of 448 women had never heard of a mammogram. They were not asked further questions about mammography.

² SOURCE: reference 9.
³ SOURCE: reference 10.

Table 5. Percentage of women in northwestern Pennsylvania, the State of Pennsylvania, and the nation who ever had a mammogram by age, education, and income

Category	Northwestern Pennsylvania (N = 435) ¹	Pennsylvania CDC Behavioral Risk Factor Survey (N = 739) ²	Mammography Attitudes and Usage Survey (N = 980) ³	Knowledge, Attitudes, and Behavior Survey (N = 836) ³
Age:				
40-49.....	59	75	64	68
50-59.....	78	72	71	70
60-69.....	69	61	65	71
70 and older.....	58	62	56	59
Education:				
Less than high school.....	56	64	58	58
High school.....	66	64	65	67
More than high school.....	72	75	72-74	72-79
Annual income:				
Less than \$25,00.....	61	61	60	64
\$25,000 and more.....	75	82	71	74

¹ 13 of 448 women had never heard of a mammogram. They were not asked further questions about mammography.

² SOURCE: reference 9.
³ SOURCE: reference 10

a mammogram, a much smaller proportion had had more than one mammogram, indicating that efforts to encourage regular mammography are needed (table 4). Among all women 40 and older in the northwest area, 43 percent had had more than one mammogram. This proportion is higher than the 35 percent of women 40 and older reported from the 1990 Mammography Attitudes and Usage Survey (10). Again, age, education, and income were related to having had more than one mammogram in the same way as that reported for ever having had a mammogram.

Most (74 percent) of the respondents in the northwest area had their last mammogram as a routine checkup with no previous history of a breast problem. For 18 percent, the mammogram was a followup of a previous breast problem, and for 8 percent it was to investigate a new breast problem. These percentages were very similar in all age groups. Eighty-one percent of women who had had a mammogram said that it was their physician's idea to have one. Twelve percent asked the

physician to arrange an appointment for a mammogram, and 7 percent had a mammogram without consulting their physician first. Again, these results were not related to age. Table 4 provides comparisons of these findings with State and national data, where available.

Since the survey provided other data important to program planners for which there were not comparison data for the same period, these results are briefly described. First, a higher proportion of women 40 and older had had clinical breast examinations according to recommended screening intervals than had had mammograms, indicating possible missed opportunities for recommending or scheduling mammograms. The American Cancer Society recommends a breast physical examination conducted by a health professional every year for women 40 and older. Mammograms are recommended every 1 to 2 years for women ages 40-49 and every year for women ages 50 and older (14). While 53 percent of women had had a clinical breast examination in the previous year, only 44

percent of women had received their last mammogram within the recommended interval. Similar discrepancies have been found in other studies (13).

Among all respondents 40 and older, including both those women who had had mammograms and those who had not, 84 percent said they would have a routine mammogram if their physician recommended it. Eleven percent said they would not have had one, and 5 percent did not know what they would do. When asked how often women should have routine mammograms, 54 percent said every year, 16 percent said every 2 years, and 20 percent did not know the recommended frequency.

Women who had ever had a mammogram showed evidence of engaging in preventive health behaviors in other ways. Among women who had ever had a mammogram, 79 percent had a routine checkup in the previous year; among those never having had a mammogram, 52 percent had a routine checkup in the previous year. There was some evidence that the type of physician seen for a routine checkup was related to whether a woman had a mammogram in that year. Sixty-nine percent of women whose checkup was by a gynecologist had a mammogram the same year, compared with 49–54 percent of those seeing a general practitioner or an internist. However, only 10 percent of women with checkups had been seen by a gynecologist. Eighty percent of women with checkups had visited general practitioners or internists. These findings on the influence of physicians' recommendations in mammography decisions and on the relationship of mammography practices to other health behaviors are similar to those reported for slightly earlier periods (15–19).

Fifty-nine percent of women reported that their last mammogram was paid for completely by insurance. Eleven percent of mammograms were paid for completely out-of-pocket, 23 percent involved a combination of insurance and out-of-pocket payments, and 2 percent were free. Five percent of women did not know how their last mammogram was paid for.

Pennsylvania has had mandated coverage of mammography by private insurers since July 1989. All costs associated with annual mammograms for women ages 50 and older and with any mammogram based on a physician's recommendation for women younger than 50 are covered. Screening mammography is also a reimbursable service for all Medicaid recipients. No age or frequency limitations are specified, but physician referral is required, and it is recommended that American

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Cancer Society guidelines be followed. At the time of the survey, reimbursement for screening mammography for Medicare beneficiaries in Pennsylvania was not yet established. This coverage began in January 1991 (20).

Hospital Survey of Mammography

Source of data. A mailed survey sent to the 20 hospitals in the area in May 1990 sought information on breast and cervical cancer screening and smoking cessation programs at the hospital. Questions related to breast cancer asked whether the institution had a mammography facility and, if so, ascertained the type of equipment, accreditation by the American College of Radiology, average number of mammograms per day, charges for mammograms, and the number and type of programs for early detection of breast cancer offered by the hospital.

Results. Nineteen of the 20 hospitals surveyed responded to the mailed questionnaire. All have mammographic facilities, and all but one have dedicated mammographic equipment. An average of 10 mammograms were performed per day; the range was 0 to 30. It has been estimated that mammographic facilities should be able to do from 25 to 40 mammograms a day, resulting in more cost-effective utilization (21). Thus, the facilities in the northwest appear to have the capacity to handle an increased demand for mammography that might result from an intervention in the area.

Ten of the sites responded that they were accredited by the American College of Radiology, five were not, and four were in the process of being accredited. Seven sites had offered breast cancer detection and prevention programs in the previous

year, nine said they had not, and three did not answer the question. The hospitals that had conducted programs used several different approaches, including low-cost mammography, instruction in breast self-examination, distribution of literature, exhibits, and professional education. In response to a specific question about future programs, 16 hospitals expressed interest in providing programs if funding were available from the Pennsylvania Department of Health.

Issues Related to Future Initiatives

How important was the survey for the northwest? Before the results of the survey were made known, health professionals in the northwest were asked to estimate the level of mammography in the area. The highest estimate was that 30 percent of women had ever had a mammogram. Many thought that the proportion was closer to 15–20 percent. Reasons given for this impression were that financial considerations were an important factor, that people in the area do not seek out preventive care, and that physicians do not order many mammograms. While most of these health professionals were also unaware of levels of mammography in the State and nation, it was clear that, without the survey, health professionals would have doubted the comparability of State or national data to the northwest.

The survey was very useful for program planning, suggesting several courses of action. First, since a relatively high percentage of women had had at least one mammogram but a much smaller percentage had regular mammograms, it was important to concentrate on the need for regular screening. Second, some groups of women had never had a mammogram, and the survey provided direction for targeting these women. While these recommendations could have come from State or national surveys, their acceptance was greatly enhanced by the availability of local data.

Hospitals have begun to use the data to develop strategies for more effective use of their resources to bring mammography use in the northwest up to the frequency of the national guidelines. Periodic updates of the profiles will provide an indication of progress being made, as well as new directions for program planning.

How feasible is it to perform data-based interventions for local areas? For States having population-based cancer registries, incidence and mortality data are readily available. The mailed survey to the hospitals in the area was also easily

accomplished, although areas with a higher density of hospitals may find this aspect more time-consuming. The telephone survey of a random sample of the population was the most costly and time-consuming part of the study.

Our original intention had been to conduct the survey in the northwest as an extension of the BRFS, using the same survey organization and instrument as the Pennsylvania BRFS. However, there are variations in the wording of key questions and in response categories between the BRFS and the national surveys conducted by the NCI. To achieve comparability, we had to reword or add questions to be able to compare State and national data with the northwest. Our use of the survey organization responsible for the BRFS did take advantage of their experience in conducting similar surveys in the State, but the lack of comparability between survey instruments increased the level of effort substantially.

There should be a concerted attempt by CDC, NCI, and individual States to word questions on health practices identically and to publish reports with demographic breakdowns constructed identically so that comparisons can be made easily. If local data are to become an integral component of public health interventions, collection and analysis of these data must be streamlined, and the methods for comparing data across geographic areas must become routine.

References

1. Boss, L. P., and Suarez, L.: Uses of data to plan cancer prevention and control programs. *Public Health Rep* 105: 354–360, July–August 1990.
2. Ries, L.A.G., et al.: *Cancer statistics review 1973–1988*. NIH Publication No. 91–2789, National Cancer Institute, Bethesda, MD, 1991.
3. Pennsylvania Department of Health: *Cancer incidence and mortality in Pennsylvania, 1985*. State Health Data Center, Pennsylvania Cancer Registry, Harrisburg, 1990.
4. Pennsylvania Department of Health: *Cancer incidence and mortality in Pennsylvania, 1988*. State Health Data Center, Pennsylvania Cancer Registry, Harrisburg, 1991.
5. Pennsylvania Department of Health, *State Health Data Center*, Harrisburg, 1991.
6. Pennsylvania Department of Health: *Cancer incidence and mortality in Pennsylvania, 1986*. State Health Data Center, Pennsylvania Cancer Registry, Harrisburg, 1990.
7. Pennsylvania Department of Health: *Cancer incidence and mortality in Pennsylvania, 1987*. State Health Data Center, Pennsylvania Cancer Registry, Harrisburg, 1991.
8. Bureau of the Census: *1980 census of housing. Characteristics of housing units, Pennsylvania, vol. 1, HC80–1–B40*. U.S. Department of Commerce, August 1983.
9. Pennsylvania Department of Health, Division of Health Promotion, Harrisburg, 1991.

10. Marchant, D. J., and Sutton, S. M.: Use of mammography—United States, 1990. *MMWR* 39: 621–630, Sept. 14, 1990.
11. Anda, R. F., et al.: Screening mammography for women 50 years of age and older: practices and trends, 1987. *Am J Prev Med* 6: 123–129 (1990).
12. Buechner, J. S., et al.: Trends in breast cancer screening—Rhode Island, 1987–1989. *MMWR* 38: 569–571, Aug. 25, 1989.
13. NCI Breast Cancer Screening Consortium.: Screening mammography: a missed clinical opportunity? *JAMA* 264: 54–58, July 4, 1990.
14. Dodd, G. D.: American Cancer Society guidelines on screening for breast cancer: an overview. *CA Cancer J Clin* 42: 177–180, May/June 1992.
15. Coll, P. P., O'Connor, P. J., Crabtree, B. F., and Besdine, R. W.: Effects of age, education, and physician advice on utilization of screening mammography. *J Am Geriatr Soc* 37: 957–962 (1989).
16. Lerman, C., et al.: Factors associated with repeat adherence to breast cancer screening. *Prev Med* 19: 279–290 (1990).
17. Schechter, C., Vanchieri, C. F., and Crofton, C.: Evaluating women's attitudes and perceptions in developing mammography promotion messages. *Public Health Rep* 105: 253–257, May–June 1990.
18. Vernon, S. W., Laville, E. A., and Jackson, G. L.: Participation in breast screening programs: a review. *Soc Sci Med* 30: 1107–1118 (1990).
19. Zapka, J. G., Stoddard, A. M., Costanza, M. E., and Greene, H. L.: Breast cancer screening by mammography: utilization and associated factors. *Am J Public Health* 79: 1499–1502 (1989).
20. Pennsylvania Breast Cancer Awareness Consensus Conference: Recommendations for a statewide plan for the early detection of breast cancer. Pennsylvania Cancer Control Program, Pennsylvania Department of Health, and American Cancer Society, October 1991.
21. Brown, M. L., Kessler, L. G., and Rueter, F. G.: Is the supply of mammography machines outstripping need and demand? An economic analysis. *Ann Intern Med* 113: 547–552 (1990).

News for Readers of Public Health Reports

The Superintendent of Documents of the Government Printing Office has increased the subscription price of the journal effective in spring 1993. Subscriptions are now \$13 a year for six issues for domestic subscriptions and \$16.75 for foreign subscriptions. A subscription order form is on page 304 of this issue. The price of a single copy sold by the Superintendent of Documents is \$6.50 for domestic purchasers and \$8.13 for foreign purchasers.

Although the subscription price has gone up, the journal of the Public Health Service continues to be relevant and useful to public health workers for a bargain price.

In this issue of *Public Health Reports* is a report on a lookback investigation of patients treated by an HIV-infected dentist. The authors are Paul M. Arnow, Teresa Chou, Robert Shapiro, and Elliot J. Sussman.

Also in this issue are two articles on water safety. They are "Fatal Incident Risk Factors in Recreational Boating in Ohio," on page 340, by Peter J. Molberg, Richard S. Hopkins, John Paulson, and Robert A. Gunn; and "Risk Factors for Drowning and Near-Drowning Among Children in Hillsborough County, Florida," by Karen D. Liller, Ellen B. Kent, Christine Arcari, and Robert J. McDermott. Recreational boating and swimming are major health risk activities, particularly for the young. These articles provide a public health approach to some largely avoidable causes of injury and death.

The next issue of *Public Health Reports*, July-August, provides a discussion of President Clinton's initiative to improve the delivery of childhood immunizations. The focus of the initiative is to improve access to immunization services, eliminate financial

barriers to age-appropriate immunization, and to facilitate the development of a national immunization tracking system.

Also in that forthcoming issue, two articles describe the success of special immunization efforts. Michael Davidson, of CDC's National Center for Infectious Diseases, provides information on high rates of vaccination against pneumococcal disease achieved in a remote high-risk Alaska Native population. Paul Stehr-Green, of CDC's National Center for Prevention Services, describes an evaluation of computer-generated telephone reminders to improve immunization levels in inner-city clinics.

Other articles will deal with such subjects as evaluation of a two-dose measles-mumps-rubella vaccination schedule among college athletes, a rubella outbreak among the Amish of northeastern Ohio, correlates for stroke risk in Florida, youth access to alcohol, increasing breast and cervical cancer screening at local health departments, fatal occupational injury, and deaths among the homeless in Georgia.

Such high interest subjects are treated in *Public Health Reports* as part of a Public Health Service communications effort to try to ensure that successful public health practice does not remain in the laboratory or fail to go beyond the provinces of the policy makers. The best technology and the best intentions are for nothing if they are not in the minds and the hands of public health workers, practitioners, and students of the health professions throughout the country.

Public health practice is more than technology and policy, however. It is motivation and know-how among those in the field. We think that is where *Public Health Reports* comes in.